THE FOLLOWING ARE THE ENGLISH TRANSLATION OF ANNEXES TO THE INTERNATIONAL PRELIMINARY EXAMINATION REPORT (ARTICLE 34):

Amended Sheets (Pages 78-80)

Claims

- [1] (Amended) An ionomer obtained by reacting metal compound particles having an average particle diameter of 1 μ m or less, with an olefin-based random copolymer obtained by copolymerizing ethylene, an α -olefin having 3 to 10 carbon atoms, a functional group-containing unsaturated monomer and, as necessary, a non-conjugated diene.
- [2] (Amended) An ionomer according to Claim 1, wherein a proportion of the metal compound particles is 0.01 to 10 parts by mass relative to 100 parts by mass of the olefin-based random copolymer.
- [3] An ionomer according to Claim 1 or 2, wherein a metal component in the metal compound particles is at least one kind of metal selected from the group consisting of sodium, magnesium, calcium, zirconium, zinc and aluminum.
- [4] An ionomer according to Claim 1 or 2, wherein the metal compound particles are made of zinc oxide.
- [5] (Cancelled)
- [6] (Amended) An ionomer according to Claim 1, wherein a functional group in the functional group-containing unsaturated monomer is carboxyl group, hydroxyl group, epoxy group or sulfonic acid group.
- [7] (Amended) An ionomer according to Claim 1, wherein the functional group-containing unsaturated monomer is a functional cyclic compound represented by the following general formula (1):

[Formula 1]

[in the general formula (1), R^1 is a hydrogen atom or a hydrocarbon group having 1 to 10 carbon atoms; Y^1 , Y^2 and Y^3 are each independently a hydrogen atom, a hydrocarbon group having 1 to 10 carbon atoms or -COOH with a proviso that at least one of Y^1 , Y^2 and Y^3 is -COOH and, when two or more of Y^1 , Y^2 and Y^3 are -COOH, they may combine to each other to form an acid anhydride [-CO-(O)-CO-]; o is an integer of 0 to 2; and p is an integer of 0 to 5].

- [8] (Amended) An ionomer according to Claim 1, wherein the olefin-based random copolymer is a copolymer obtained by copolymerizing 35 to 94.99 mol % of ethylene, 5 to 50 mol % of an α -olefin having 3 to 10 carbon atoms, 0.01 to 5 mol % of a functional cyclic compound represented by the general formula (1) and 0 to 10 mol % of a non-conjugated diene.
- [9] (Amended) A process for producing an ionomer, which comprises a step of subjecting an olefin-based random copolymer obtained by copolymerizing ethylene, an α -olefin having 3 to 10 carbon atoms, a functional group-containing unsaturated monomer and, as necessary, a non-conjugated diene, to a heat treatment or a dynamic heat treatment in the presence of metal compound particles having an average particle diameter of 1 μ m or less.
- [10] (Amended) A molded article obtained by molding a molding material containing an ionomer set forth in any of Claims 1 to 4 and 6 to 8, by a molding method selected from injection molding, extrusion molding, vacuum molding, powder slush molding, calender molding, transfer molding, solvent casting and press molding.
- [11] A process for producing an ionomer, which comprises

subjecting, to a dynamic heat treatment, a metal compound and an olefin-based random copolymer obtained by copolymerizing ethylene, an α -olefin having 3 to 10 carbon atoms and a functional cyclic compound represented by the following general formula (2):

[Formula 2]

$$\begin{array}{c|c}
 & R^{1} \\
 & | \\
 & | \\
 & R^{3}
\end{array}$$
... (2)

[in the general formula (2), n is 0 or 1; and R^1 , R^2 , R^3 and R^4 are each independently a hydrogen atom, a halogen atom or a mono-valent organic group].

- [12] A process for producing an ionomer according to Claim 11, wherein, in the above mentioned general formula (2), R^1 , R^2 , R^3 and R^4 are each independently a hydrogen atom or a hydrocarbon group having 1 to 20 carbon atoms.
- [13] A process for producing an ionomer according to Claim 11 or 12, wherein, in the above mentioned general formula (2), all of R^1 , R^2 and R^3 are an ethyl group, or one of R^1 , R^2 and R^3 is a tert-butyl group and the remaining two are each a methyl group.
- [14] A process for producing an ionomer according to any of Claims 11 to 13, wherein, in the above mentioned general formula (2), R^4 is a methyl group.